

Editorial

Disasters and Public Health Concerns

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As this piece is being written, the world is faced with a seemingly never-ending series of disasters, all with major public health impacts. These are not just the result of having 24-hour news channels available everywhere, but are also due to the increased concentrations of populations and increasing adverse weather events due to the impact of climate change. Public health was born out of natural disasters and epidemics. The great epidemics of past eras killed a far greater proportion of the population than present day disasters. Modern public health has reduced the impact of epidemics and led the way in disaster planning and management. We have learned a lot about categorising disasters, predicting their impact, managing the human losses and perhaps most of all in prevention and preparation for managing the impact.

We are all still grappling with the aftermath of the earthquake and tsunami disaster in Japan. According to the Japanese official figures, the 11th March massive earthquake off the north-eastern part of Honshu, Japan, with a 9.0 magnitude has claimed more than 12000 deaths, 3000 injured and more than 13000 missing. Many more are still unaccounted for and hundreds of thousands have lost their homes and now face many months in relief shelters and evacuation centers. Homes, buildings, roads, communication systems and other infrastructures have all been destroyed. The Japan disaster has been compounded by the damage to nuclear power reactors.

As with any other natural or man-made disasters, such as, the tsunami in Aceh in 2007, the earthquake in Haiti in 2010, the bombing of the World Trade Center in New York in 2001, Hurricane Katrina in New Orleans and other catastrophes, the public health impacts of the Japan earthquake/tsunami are severe and will impact the population for many years. For major disasters it is essential to coordinate the efforts of national and international relief organizations to deal with immediate needs and long term rehabilitation. Immediate needs begin with rescue and trauma management, followed by the provision of water, shelter and sanitation, and food. The restoration of transportation, communications and other infrastructure needs are essential for relief efforts. Devastation on this scale that affects people's life, property and their livelihood also has a serious impact on psychological wellbeing and mental health.

Japan has prepared for earthquakes by having very high engineering and construction standards. The death rate from building collapse, a few thousand, was much less than in the Sichuan earthquake in China (magnitude 8) three years ago where perhaps 200,000 people died. Much has been learned in recent years about safety management and about preparation through disaster planning. In the Japanese disaster all of the 11 nuclear reactors in the affected region shut down automatically as planned following the earthquake. But the need for cooling continues and what nobody had planned for was the tsunami that followed an hour later and destroyed both the main and backup cooling systems. More recent designs incorporate gravity feed cooling systems that

are more likely to continue working. Learning from disasters is important and extra protection can now be incorporated into nuclear power stations and into protecting coastal communities from tsunamis.

Planning for and managing the after effects of disasters are core business for Schools of Public Health and Ministries of Health. MPH programs need to include theoretical learning and practical workshops on the preparation of local and national disaster plans. Planning needs to be long term and start with the siting of health facilities and infrastructure in less vulnerable locations. Disasters bring numerous health challenges beginning with rescue and the triage and management of physical injuries. The first phase is followed by the risk of communicable diseases, management of psychological effects and long term rehabilitation. Public health care needs begin with the supply of safe drinking water and sanitation measures, followed by food, shelter, the prevention of communicable diseases, and vector control. In cold countries, survivors, especially the elderly are faced with hypothermia.

The release of radiation from the damaged Fukushima Daiichi nuclear power plants in Japan provided an additional public health dimension to the disaster. Food safety and drinking water quality is being monitored closely for fear of radiation contamination, although at the time of writing it appears that the main containment vessels are intact (goo design) and health impacts will be limited. Neighboring countries in Asia are on the alert for contaminated food imports from Japan. The Japanese government took swift action in the evacuation of its people living near the nuclear power plant. A new tool to assist management of disasters is the availability of continuous risk communication often using social media, such as, Facebook, Tweeter in addition to the more usual radio and television networks. For less developed countries it is possible to set up a radio station out of a suitcase to provide immediate local information. These media play a great role in information dissemination and monitoring of the situation to relieve public's fears and anxieties. A challenge for public health researchers will also be to assess whether spreading of inappropriate information also lead to unnecessary fears.

The international and regional response to the Japanese crisis was quite remarkable and included the provision of medical resources and expertise, psychological support and financial aid. Coordination between local, national, international and non-governmental organisation (NGO) agencies is very important. Following a tsunami on the north coast of Papua New Guinea several years ago, no fewer than 10 national, international and NGOs carried out their own assessments of the damage and the needs for aid. So many of the country's transport resources (planes and helicopters) were involved in the assessments that there were no resources available for actual relief. Good coordination requires planning before the event.

We can all plan for disasters. But in reality every disaster is slightly different and we must continue to learn from such events to improve our capacity for future catastrophes. As to the role of international non-governmental agencies and other civil organisations, they too play a role in alleviating the aftermath of a disaster. The Asia Pacific Academic Consortium of Public Health

(APACPH), the sole proprietor of this Journal, has mounted and mobilized an international support via its member institutions in Asia Pacific to assist our colleagues in need in Japan. APACPH is an academic organisation and it is our responsibilities to educate to minimize the public health effects of the disaster and to contribute to a better disaster management planning. Cooperation among its member institutions in APACPH will yield greater benefits in dealing with the public health impacts of disasters. As a contribution to regional disaster planning and management in 2011 the Journal will publish a special issue on disasters to promote better teaching and planning.